

## WHAT IS CLAIMED IS:

1. A position adjustment mechanism, comprising two cylindrical portions, a first one of the portions being slidably disposed inside a second one of the portions, wherein one of the portions has at least three detents and the other portion has  
5 at least three members for engaging in respective said detents to hold said portions in a first position, the members being removable from said detents to allow said portions to move into a second position; wherein the detents and members are equi-spaced around the first and second portions.
2. A mechanism as claimed in claim 1, wherein the portions are biased away from  
10 each other by a resilient means.
3. A mechanism as claimed in claim 1, wherein said cylinders are arranged with their axes generally vertical, and said detents are upwardly open.
4. A mechanism as claimed in claim 1, wherein said detents are formed on said first portion.
- 15 5. A mechanism as claimed in claim 4, wherein said members are formed on said second portion.
6. A mechanism as claimed in claim 5, wherein said detents each form part of a groove formed on said first portion, said members engaging in respective said grooves.

7. A mechanism as claimed in claim 6, wherein said grooves form respective circuits, said members moving around their respective circuits as the portions move from their first position to their second position and back to their first position.
- 5 8. A mechanism as claimed in claim 6, having an odd number of grooves and a corresponding odd number of members, greater than 1.
9. A mechanism as claimed in claim 1, where one of said portions is in contact with a first body and the other of said portions is in contact with a second body, motion of the portions between the first position and the second position serving to adjust the distance between the bodies.
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10. A mechanism according to claim 1, wherein a chamber is formed between the cylindrical portions, relative movement of the cylindrical portions being effected through pressurising or depressurising the chamber.
- 15 11. A mechanism according to claim 1, wherein the detents are aligned in the longitudinal axis of the cylindrical portions.
12. Apparatus for holding two elements at two longitudinally spaced positions, the apparatus comprising:
- 20 a) a cam circuit provided to a first one of said elements; and
- b) a cam follower provided to a second one of the elements;

wherein the cam circuit directs the cam follower around the circuit as a result of alternating relative longitudinal movements of the first and second elements, relative longitudinal movements between the elements in one direction being effected through pressurising or depressurising a chamber formed between the elements.

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13. Apparatus according to claim 12, wherein the first and second elements comprise respective first and second cylindrical portions, the first one of which disposed inside the second.

14. Apparatus according to claim 13, wherein an end of the first cylindrical portion together an internal bore of the second cylindrical portion form said chamber between the elements.

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15. Apparatus according to claim 12, wherein said chamber has a combined fluid inlet/outlet.

16. Apparatus according to claim 12, further comprising a plurality of cam circuit/cam follower combinations positioned non-diametrically opposite around the circumference of the cylindrical portions.

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17. Apparatus according to claim 16, wherein three such cam circuit/cam follower combinations are provided at equal intervals around the circumference of the cylindrical portions.

18. Apparatus according to claim 12, wherein relative longitudinal movements between the elements in one direction are effected through introducing a fluid under pressure into the chamber.
  19. Apparatus according to claim 12, wherein relative longitudinal movements between the elements in one direction are effected through creating a vacuum within the chamber.
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